

Section 37–3 The Respiratory System (pages 956–963)

Key Concepts

- What is the function of the respiratory system?
- How does smoking affect the respiratory system?

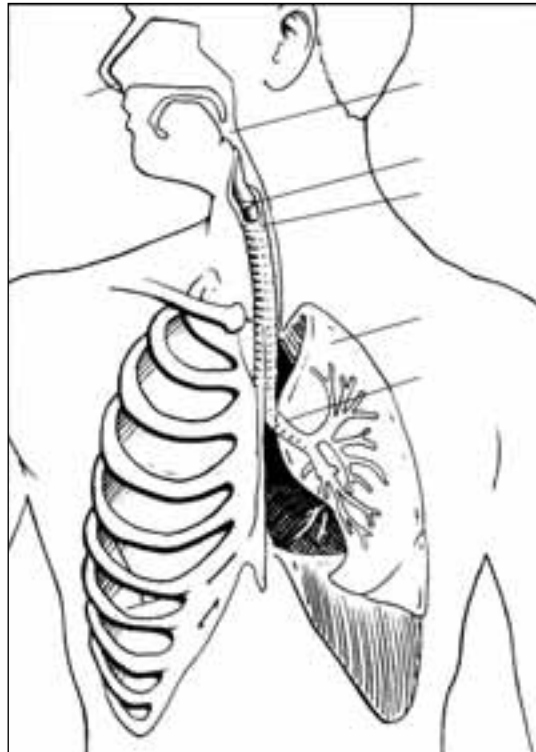
What Is Respiration? (page 956)

1. The process by which oxygen and carbon dioxide are exchanged between the lungs and the environment is known as _____.

The Human Respiratory System (pages 956–958)

2. What is the basic function performed by the human respiratory system? _____

3. Label each of the following structures in the drawing of the human respiratory system: nose, pharynx, larynx, trachea, bronchus, and lung.



4. Circle the letter of the choice that lists the respiratory structures from largest to smallest.
a. Alveoli, bronchioles, bronchi c. Bronchi, bronchioles, alveoli
b. Bronchioles, bronchi, alveoli d. Bronchi, alveoli, bronchioles
5. What prevents food from entering your trachea? _____

Match each structure of the respiratory system with its description.

Structure	Description
_____ 6. pharynx	a. Tiny air sacs where gas exchange occurs
_____ 7. trachea	b. Tiny projections that sweep trapped particles and mucus away from the lungs
_____ 8. cilia	c. Tube that serves as a passageway for both air and food
_____ 9. larynx	d. Large passageways in the chest that lead to the lungs
_____ 10. bronchi	e. Structure at the top of the trachea that contains the vocal cords
_____ 11. alveoli	f. Passageway between the pharynx and bronchi

Gas Exchange (page 958)

12. Gas exchange occurs in the _____.
13. Describe the process of gas exchange. _____

14. Circle the letter of each sentence that is true about gas exchange.
- a. It is a very efficient process.
 - b. Exhaled air usually contains no oxygen.
 - c. The lungs remove about half of the oxygen of inhaled air.
 - d. The lungs increase the carbon dioxide content of inhaled air by a factor of 100.
15. Why is hemoglobin needed? _____

Breathing (pages 959–960)

16. The movement of air into and out of the lungs is called _____.
17. The large, flat muscle at the bottom of the chest cavity is the _____.
18. Is the following sentence true or false? The force that drives air into the lungs comes from air pressure. _____
19. What happens when you inhale? _____

20. What happens when pressure in the chest cavity becomes greater than atmospheric pressure? _____

How Breathing Is Controlled (pages 960–961)

21. The part of the brain that controls breathing is the _____.
22. Is the following sentence true or false? Cells in the breathing center monitor the amount of oxygen in the blood. _____
23. Why do airplane passengers in emergency situations often have to be told to begin breathing pressurized oxygen? _____

Tobacco and the Respiratory System (pages 961–963)

24. List three of the most dangerous substances in tobacco smoke.
 - a. _____
 - b. _____
 - c. _____
25. Is the following sentence true or false? Nicotine is a stimulant drug that increases pulse rate and blood pressure. _____
26. Why is carbon monoxide dangerous? _____

27. List three respiratory diseases caused by smoking.
 - a. _____
 - b. _____
 - c. _____
28. Circle the letter of each sentence that is true about chronic bronchitis.
 - a. It is characterized by swollen bronchi.
 - b. It occurs only in heavy smokers.
 - c. It can make stair climbing and similar activities difficult.
 - d. It is unrelated to smoking.
29. What is emphysema? _____
30. Circle the letter of each sentence that is true about lung cancer.
 - a. Its most important cause is smoking.
 - b. It is often deadly.
 - c. It cannot spread to other parts of the body.
 - d. It is usually detected early enough for a cure.

31. Circle the letter of each way that smoking affects the cardiovascular system.

- a. It constricts the blood vessels.
- b. It causes blood pressure to rise.
- c. It makes the heart work harder.
- d. It causes heart disease.

32. Inhaling the smoke of others is called _____.

33. Why is passive smoking particularly harmful to young children? _____

34. Why is it so hard to quit smoking? _____

35. What is the best solution for dealing with tobacco? _____

Reading Skill Practice

When you read a section with many details, writing an outline may help you organize and remember the material. Outline Section 37–3 by first writing the section headings as major topics in the order in which they appear in the book. Then, beneath each major topic, list important details about it. Title your outline *The Respiratory System*. Do your work on a separate sheet of paper.